Statewide Quarter 4 Data Report October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

For Quarter 4 2017 which spanned from October 1, 2017—December 31, 2017 there were 9,070 incidents reported to the Indiana Trauma Registry at the Indiana State Department of Health. There were 104 hospitals that reported data, of which 10 were level I or II trauma centers, 12 were level III trauma centers and 82 were non-trauma centers. There were 5 hospitals that either started to report again or were new to reporting during this quarter compared to the previous quarter, while 1 hospital dropped off from reporting. A map of the state with the reporting hospitals can be found on page 17. Trauma centers represented 84.2% of the data. There were 3,197 incidents reported for October, 2,980 reported for November, and 2,893 incidents reported for December.

The content of this report has changed due to suggestions and additions requested by the Indiana State Trauma Care Committee at the April 21, 2017 meeting. Explanations of the changes requested and adapted from the ISTCC meeting can be found on page 19.

Some general reminders include that the blue columns represent an Indiana average, red columns represent level I and II trauma centers, green columns represent level III trauma centers and orange non-trauma centers. If a single percent is listed above a group of bars, the percent listed represents the average for Indiana. If a number is listed above a group of bars, it represents the count for Indiana. The category 'All Transfers' denotes the patient group where ED Disposition = Transferred to Another Hospital. The category 'Linked Transfers' represents the patient group for whom the initial hospital and final hospital information could be linked.

<u>Definitions:</u>

Direct Admit: Patient is admitted directly to the hospital and does not spend time in Emergency Department. The ED Length of Stay should reflect a direct admittance.

External Cause of Injury: ICD-10-CM codes that are used to describe the mechanism or external factor that caused the injury event. Trauma Type: The classification of the force applied to the body. Trauma type categories include blunt, penetrating, thermal, and other trauma. Injury Severity Score: An anatomical scoring system defined as the sum of the three highest squared maximum Abbreviated Injury Scale (AIS) values to account for multiple injuries in the six body regions.

Formulas:

Acronyms:

ED: Emergency Department MVC: Motor Vehicle Collision

ICU: Intensive Care Unit ISS: Injury Severity Score LOS: Length of Stay NTC: Non-trauma Center OR: Operating Room
Ps: Probability of Survival
Level I, II and III: Verified and In
Process Trauma Centers

CAHs: Critical Access Hospital

<u>Calculations:</u>

 $\overline{P_S} = 1/(1+e^{-b})$ where b=b₀+b1(RTS) + b2(ISS) + b3(Age Index)

Total GCS = Verbal GCS + Motor GCS + Eye GCS

RTS = 0.94*GCS+0.73*SBP+0.29*RR

 $ISS = (AIS)^2 + (AIS)^2 + (AIS)^2$

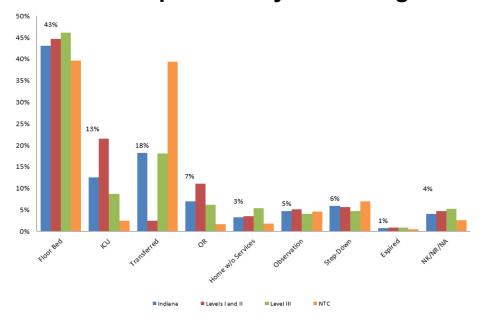
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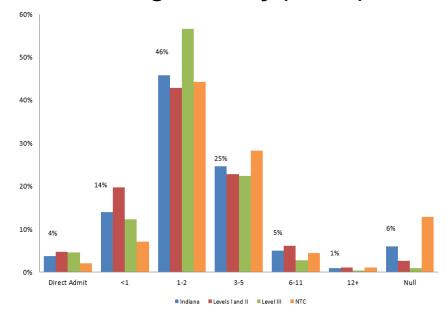
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ED Disposition by Percentage



ED Length of Stay (Hours)



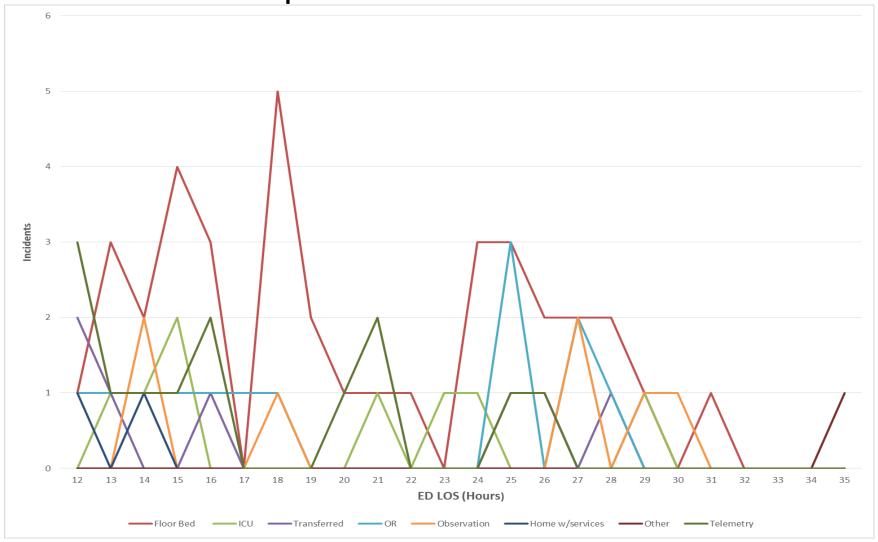
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ED Disposition for ED LOS >12 Hours



N = 88

^{*}No cases expired

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ED LOS > 12 Hours, N=88

Facilities	49 Level I and II 6 Non-trauma Centers 33 Non-trauma Centers	Region	17 North; 42 Central; 13 South; 16 Un-known/Out of State
Average Distance from Scene to Facility	21.1 Miles	ISS	48 (1-8 cat); 26 (9-15 cat); 6 (16-24), 2 (25-44), 6 (No ISS)
Transport Type	57 Ambulance; 25 Private Vehicle; 1 Police; 5 Unknown	GCS Motor	3 (1 cat); 2 (4 cat); 3 (5 cat); 70 (6 cat); 10 (unknown)
Cause of Injury	3 Cut/Pierce; 58 Fall; 1 Firearm; 17 Transportation; 2 Natural/Env.; 4 Struck by Against; 2 Other specified; 1 Other	RTS—Systolic	2 (cat 2);3 (cat 3); 4 (cat 4)
Signs of Life	88 Yes	RTS—Resp. Scale	72 (3); 6 (4)
Age	48.1 Years (1-95 Years)	Resp. Assistance	2 Yes; 77 No; 9 Unknown
Gender	38 Female; 49 Male; 1 Unknown	ED LOS Hours	20 (12-35)
Interfacility Transfer	14 No; 74 Yes	ED Disposition	37 Floor Bed; 13 OR; 13 Step-down; 8 ICU; 7 Observation; 7 Transferred; 2 Home w/o Services; 1 Other

⁻Region was created from injury zip code. Missing = no injury zip or injury zip from out of state.

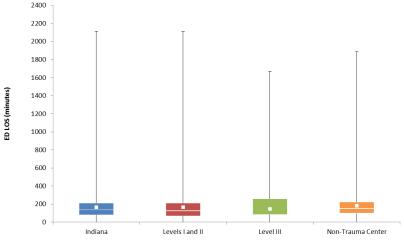
⁻Numbers represent counts per category or mean with minimum and maximum in parentheses.

⁻No signs of life is defined as having none of the following: organized EKG activity, papillary responses, spontaneous respiratory attempts or movement, and unassisted blood pressure. This usually implies the patient was brought to the ED with CPR in progress (2017 Trauma Registry Data Dictionary, page 203).

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ED LOS (Minutes) - All Patients

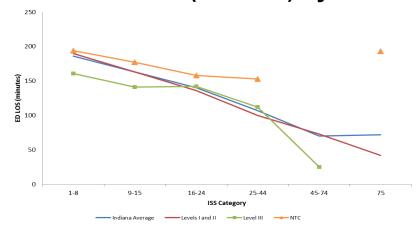


A table with all the values for ED LOS is found on page 52.

104 Total Hospitals Reporting

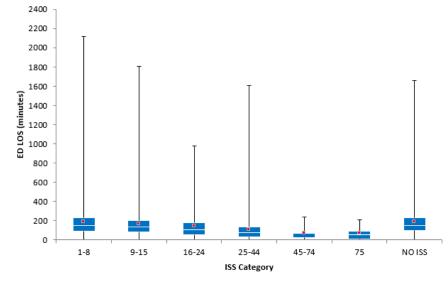
Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

ED LOS (Minutes) by ISS



Note for EDLOS by ISS, there were 11 cases with ISS of 75; two were at non-trauma centers.

ED LOS (Minutes) by ISS



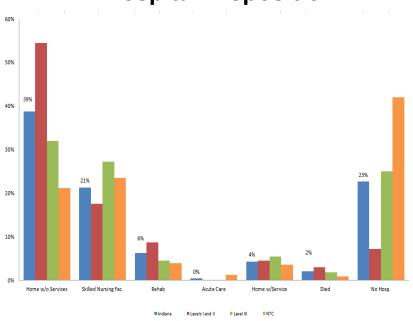
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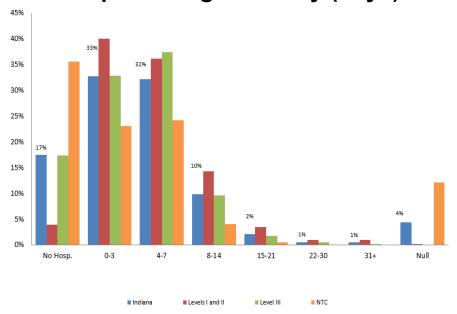
Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

Hospital Disposition



Hospital dispositions with <1% included: Another institution, Null, Psychiatric Hospital, Long Term Care Hospital, AMA, Hospice Care, and Intermediate Care.

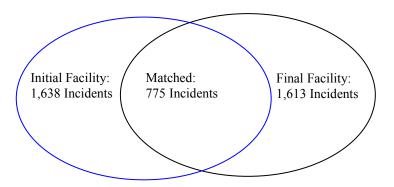
Hospital Length of Stay (days)



Statewide Quarter 4 Data Report October 1, 2017—December 31, 2017 9,078 Incidents

For Quarter 4 2017, of the 9,078 incidents reported to the Indiana Trauma Registry, 3,251 cases that had an ED Disposition of "Transferred to another acute care facility" at the initial facility or that had the Inter-Facility Transfer equal to "Yes" at the Trauma Center. Of those transferred,

666 cases were probabilistically matched. The linked cases make up 23% of the Q4 2017 data. All public health preparedness districts are represented. The diagram below illustrates the overlap between the transfers reported from the initial facility and from the final facility that can be matched.



The initial facility in which transfers come from may be considered Critical Access Hospitals (CAHs). All Indiana CAHs are considered Rural, and must meet additional requirements to have a CAH designation, such as having no more than 25 inpatient beds and being located in a rural area. Facilities that are highlighted indicate that these facilities reported data for Quarter 4 2017.

Within this transfer data section, the purple columns represent the transfer cases and the single percentages represent the percent for the transfer cases. For two demographic variables, patient age groupings and gender, the Indiana average is included to provide more insight to this transfer population.

, 	
CAH List	
Adams Memorial Hospital	Parkview Wabash Hospital
Cameron Memorial Community Hospital	Perry County Memorial Hospital
Community Hospital of Bremen	Pulaski Memorial Hospital
Decatur County Memorial Hospital	Putnam County Hospital
Dukes Memorial Hospital	Rush Memorial Hospital
Gibson General Hospital	Scott County Memorial Hospital
Greene County General Hospital	St. Vincent – Clay Hospital
Harrison County Hospital	St. Vincent – Dunn Hospital
IU Health – Bedford Hospital	St. Vincent – Jennings Hospital
IU Health – Blackford Hospital	St. Vincent – Mercy Hospital
IU Health – Frankfort Hospital	St. Vincent – Randolph Hospital
IU Health – Paoli Hospital	St. Vincent - Salem Hospital
IU Health – Tipton Hospital	St. Vincent - Warrick Hospital
IU Health – White Memorial Hospital	St. Vincent – Williamsport Hospital
Jasper County Hospital	Sullivan County Community Hospital
Jay County Hospital	Union Hospital Clinton
Margaret Mary Health	Woodlawn Hospital
Parkview LaGrange Hospital	
Rural List	

104 Total Hospitals Reporting

Level I and II:

(Non-Trauma) Hospitals:

Level III:

10 facilities

12 facilities

82 facilities

47.1% of data

18.0% of data

34.9% of data

Columbus Regional Hospital Kosciusko Community Hospital **Daviess Community Hospital** La Porte Hospital Fayette Regional Health System Major Hospital Franciscan Health-Crawfordsville Marion General Hospital Franciscan Health-Michigan City Memorial Hospital (Logansport) Memorial Hospital & Health Care Center Good Samaritan Hospital (Jasper) Parkview Noble Hospital Henry Community Health IU Health – Starke Hospital Reid Health St. Joseph Regional Medical Center – Plym-King's Daughters' Health outh

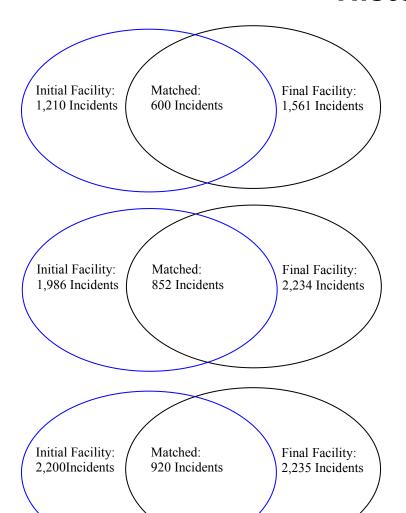
Statewide Quarter 4 Data Report

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Historical Links



For Quarter 1 2017, of the 7.805 incidents reported to the Indiana Trauma Registry, 1,210 cases that had an ED Disposition of "Transferred to another acute care facility" at the initial facility or that had the Inter-Facility Transfer equal to "Yes" at the Trauma Center. Of those transferred, 600 cases were probabilistically matched. The linked cases make up 21% of the Q1 2017 data. All public health preparedness districts are represented. The diagram below illustrates the overlap between the transfers reported from the initial facility and from the final facility that can be matched.

For Quarter 2 2017, of the 9,990 incidents reported to the Indiana Trauma Registry, 1,986 cases that had an ED Disposition of "Transferred to another acute care facility" at the initial facility or that had the Inter-Facility Transfer equal to "Yes" at the Trauma Center. Of those transferred,

852 cases were probabilistically matched. The linked cases make up 8.5% of the Q2 2017 data. All public health preparedness districts are represented. The diagram below illustrates the overlap between the transfers reported from the initial facility and from the final facility that can be matched.

For Quarter 3 2017, of the 9,996 incidents reported to the Indiana Trauma Registry, 2,200 cases that had an ED Disposition of "Transferred to another acute care facility" at the initial facility or that had the Inter-Facility Transfer equal to "Yes" at the Trauma Center. Of those transferred, 920 cases were probabilistically matched. The linked cases make up 9.2% of the Q3 2017 data. All public health preparedness districts are represented. The diagram below illustrates the overlap between the transfers reported from the initial facility and from the final facility that can be matched.

Statewide Quarter 4 Data Report

October 1, 2017—December 31, 2017 9,078 Incidents

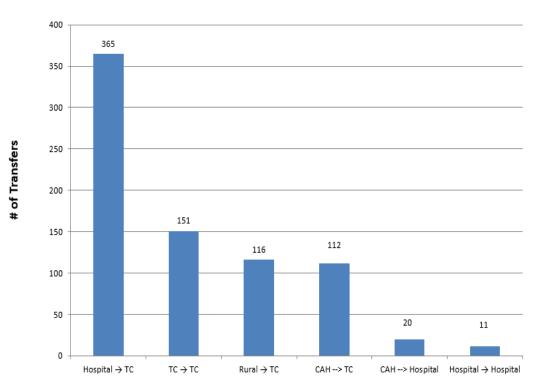
Facility to Facility Transfers

For Transfer Patients:				
Initial Hospital Type	Final Hospital Type	Incident Count		
Hospital	Trauma Center	365		
Trauma Center	Trauma Center	151		
Rural	Trauma Center	116		
САН	Trauma Center	112		
САН	Hospital	20		
Hospital	Hospital	11		

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Facility Transfer Type



Rural = Rural Hospital; TC = ACS Verified or In Process Trauma Center;

CAH = Critical Access Hospital; Hospital = does not fall into above categories

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For Linked Transfer Patients:

For Transfer Patients:				
	All Transfer Patients	Critical*	Physiological Critical**	ISS Critical***
Number of Patients	775	228	157	97
EMS Notified to Scene	7.3 minutes	6.9 minutes	6.5 minutes	8.1 minutes
EMS Scene Arrival to Departure	17.3 minutes	18.3 minutes	16.8 minutes	19.9 minutes
EMS Scene Departure to Initial Hospital ED Arrival	17.1 minutes	16.1 minutes	15.3 minutes	16.9 minutes
Initial Hospital ED Arrival to Departure	2 hours 10.7 minutes	2 hours 10.9 minutes	2 hours 7.3 minutes	2 hours 6.4 minutes
Initial Hospital ED Departure to Final Hospital ED Arrival	2 hours 3.4 minutes	1 hour 41.9 minutes	1 hour 46.5 minutes	1 hour 33.7 minutes
TOTAL TIME	4 hours 55.8 minutes	4 hours 34.1 minutes	4 hours 32.4 minutes	4 hours 25 minutes

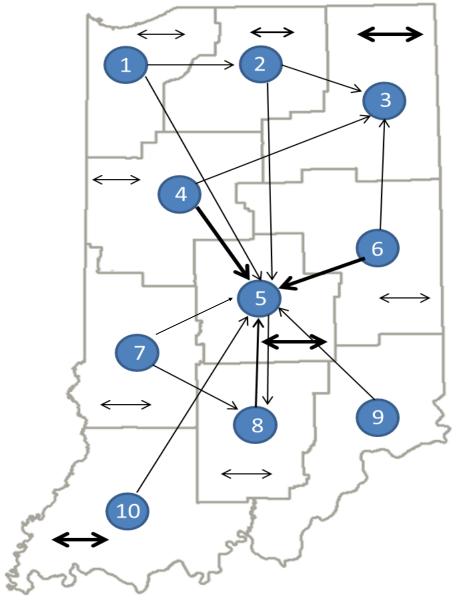
^{*}Critical patient is defined as having a GCS \leq 12, OR Shock Index > 0.9 OR ISS >15 at the initial hospital.

^{**}Physiological Critical Transfer patient is defined as having a Shock Index > 0.9 OR GCS ≤ 12 at the initial hospital.

^{***}ISS Critical Transfer patient is defined as having an ISS > 15 at the initial hospital

Statewide Quarter 4 Data Report

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*The thickness of the line indicates the frequency of transfers out of or within the public health preparedness district. The circles represent transfers from a specific PHPD, not of a specific hospital or county.

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For Transfer Patients:			
Public Health Preparedness District Initial Hospital	Public Health Preparedness District Final Hospital	Incident Counts	
1	1	1	
1	2	30	
1	4	4	
1	5	10	
2	2	5	
2	3	1	
2	5	7	
3	3	136	
3	5	1	
4	4	21	
4	5	57	
5	5	141	
6	3	12	
6	5	98	
6	6	3	
7	5	53	
7	7	29	
7	8	3	
8	4	42	
8	8	16	
9	5	3	
10	5	12	
10	10	90	

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For Transfer Patients:				
	All Transfer Patients	Critical*	Physiological Critical**	ISS Critical***
Number of Patients	775	228	157	97
Total Time	4 hours 55.8 minutes	4 hours 34.1 minutes	4 hours 32.4 minutes	4 hours 25 minutes
Total Mileage	50.3	49.9	50.8	48.0
Injury Scene to Initial Hospital Mileage***	8.5	7.5	6.8	8.5
Initial Facility to Final Facility Mileage	41.8	42.4	44	39.5

Estimated Average Distance (miles) by Region (region of final hospital):

Region	Injury Scene to Initial Facility Mileage [†]	Initial Facility to Final Facility Mileage	Total Mileage	Drive Count	Air Count
Indiana Average	8.5	41.8	50.3	686	89
North Region	7.8	29.9	37.7	171	14
Central Region	8.5	49.1	57.6	413	68
South Region	9.9	30	39.9	102	7

^{*}Critical patient is defined as having a GCS \leq 12, OR Shock Index > 0.9 OR ISS >15 at the initial hospital.

^{**}Physiological Critical Transfer patient is defined as having a Shock Index > 0.9 OR GCS ≤ 12 at the initial hospital.

^{***} ISS Critical Transfer patient is defined as ISS > 15 at the initial hospital.

[†]Injury Scene to Initial Facility Mileage location estimated by zip code centroid

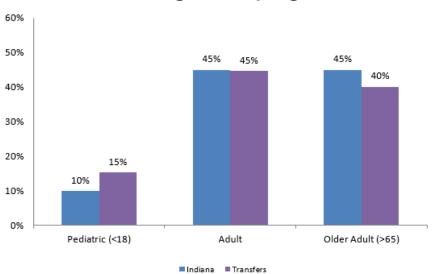
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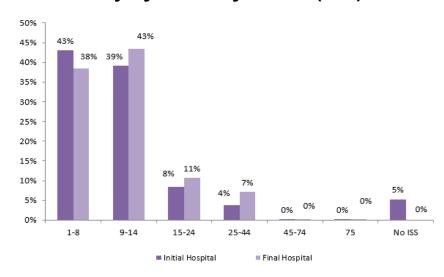
Patient Age Groupings



Patient Gender



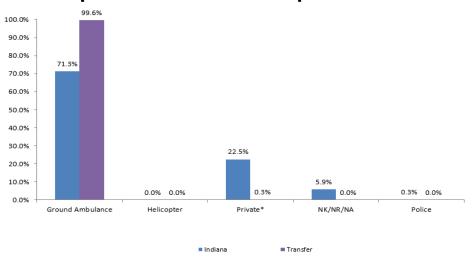
Injury Severity Score (ISS)



Statewide Quarter 4 Data Report

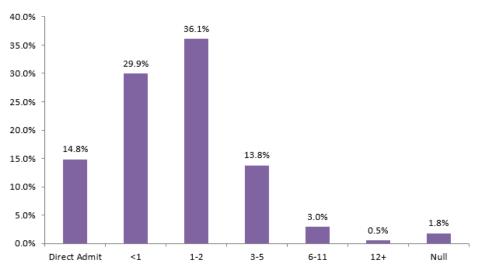
October 1, 2017—December 31, 2017 9,078 Incidents

Transport Mode- Final Hospital



<1% Transport Mode: Police, Other, Helicopter * Indicates Private/ Public Vehicle, Walk-in

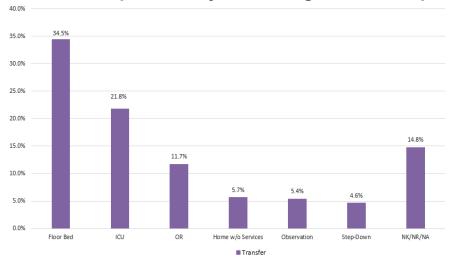
ED Length of Stay (hours)- Final Hospital



104 Total Hospitals Reporting

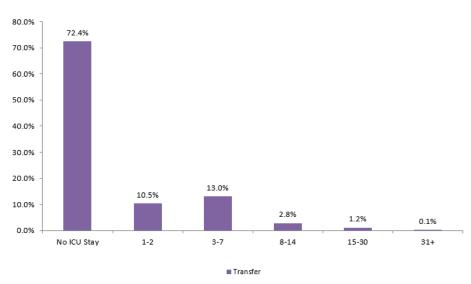
Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

ED Disposition by Percentage- Final Hospital



<1%: Transferred, Expired, AMA, Other

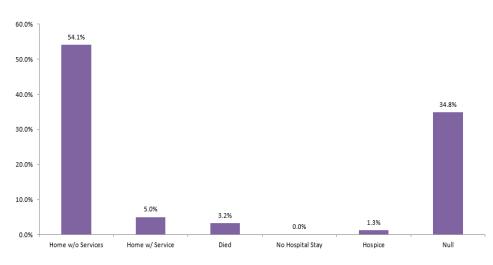
ICU Length of Stay (days)- Final Hospital



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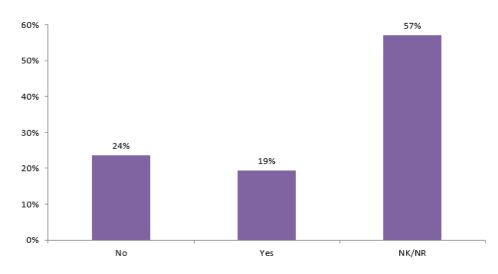
October 1, 2017—December 31, 2017 9,078 Incidents

Discharge Disposition- Final Hospital



<1%: Acute care, AMA, another inst. Correctional, long-term care, hospice, psych hospital, no hospital stay

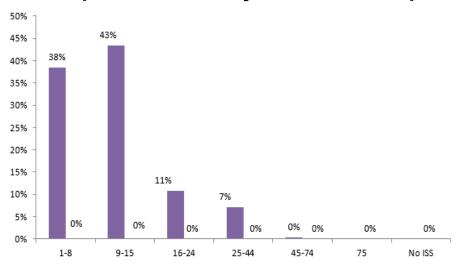
Transfer Delay Indicated-Initial Hospital



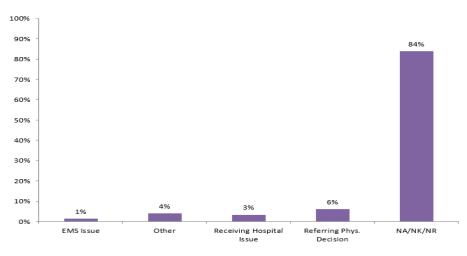
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Helicopter Transfers by ISS- Final Hospital

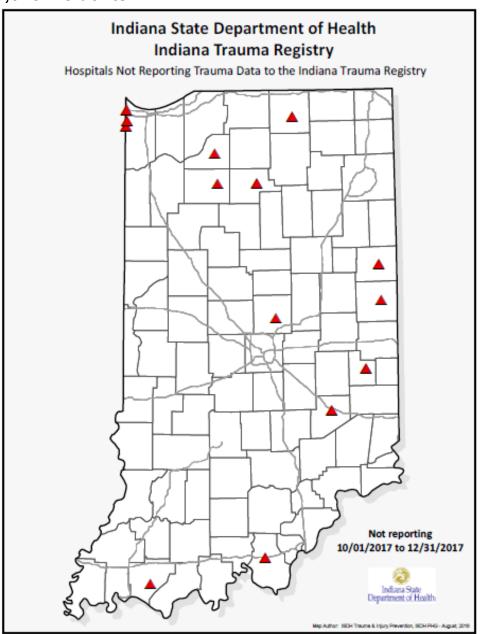


Initial Facility Transfer Delay Reason



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Hospital that did not report during Q4 2017:

- -Decatur County Memorial
- -Fayette Regional Health
- -Franciscan Health Dyer
- -Franciscan Health Hammond
- -Franciscan Health Munster
- -Goshen Hospital
- -Harrison County
- -IU Health—Jay
- -IU Health—Starke
- -Pulaski Memorial
- -Riverview Health
- -St Vincent—Randolph
- -St Vincent—Warrick
- -Woodlawn Hospital

Indiana State Department of Health Indiana Trauma Registry

Hospitals Reporting Trauma Data Quarter 4 October 1, 2017 - December 31, 2017

Level I and II Trauma Centers

Deaconess Hospital
Eskenazi Health
IU Health Methodist Hospital
Lutheran Hospital of Indiana
Memorial Hospital of South Bend
Parkview Regional Medical Center
Riley Hospital for Children at IU Health
St Mary's Medical Center of Evansville
St Vincent Indianapolis Hospital & Health Services
Terre Haute Regional Hospital

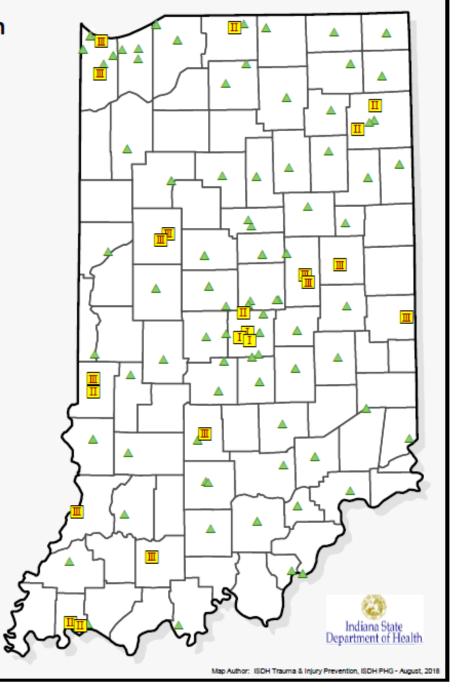
Level III Trauma Centers

Community Hospital of Anderson & Madison Co.
Franciscan St Anthony Health - Crown Point
Franciscan St Elizabeth Health - Lafayette East
Good Samaritan Hospital
IU Health Arnett Hospital
IU Health Ball Memorial Hospital
IU Health Bloomington Hospital
Memorial Hospital and Health Care Center
Methodist Hospitals - Northlake Campus
Reid Hospital & Health Care Services
St Vincent Anderson
Union Hospital Terre Haute

▲ Non-Trauma Hospitals

82 Non-Trauma Hospitals

Hospital categories include Verified and "In the Process" Trauma Centers as of September 30, 2017.



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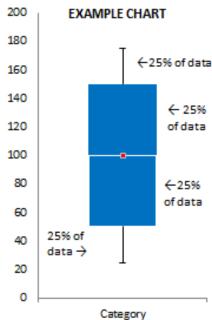
Requests and Changes to the Report from Trauma Care Committee members at the February 2017 ISTCC meeting: General Report:

- -ED LOS is calculated using ED Acute Care Admission Date/Time and ED Acute Care Discharge Date/Time (Orders Written)
- -Hospital LOS is calculated using Hospital Admission Date/Time and Hospital Discharge Date/Time (Orders Written)
- -Trauma type and probability of survival will not be included in the statewide report until the CDC finalizes their guidelines on how to categorize those variables.
- -Pages 30-52 have caterpillar plots with the ED LOS for critical transfer patients.
- -Signs of Life: The two field values for this variable are: 1) Arrived with no signs of life, 2) Arrived with signs of life. A patient with no signs of life is defined as having none of the following: organized EKG activity, pupillary responses, spontaneous respiratory attempts or movement, and unassisted blood pressure. This usually implies the patient was brought to the ED with CPR in progress.

Example Bar and Whisker Plot:

-Bar and whisker plots were requested at the November 2013 ISTCC meeting in order to show more than just an average ED LOS and ED LOS by ISS. The bar and whisker plots represent the four quartiles of data, as illustrated on the example graph to the right. The blue boxes each contain 25% of the values and the error bars each represent where 25% of the values fell. The median is represented in the middle of the two blue boxes with the white line. The red dot in the center indicates the average for that category. The cap on the error bars indicates the minimum and maximum of each category and all the values fall within the two caps.

-For the ED LOS bar and whisker plots to the right, the average is represented by the white dot and the color boxes reflect the hospital type. The ED LOS by ISS plots on the next page follow the same layout and the red dots indicate the average for each of the ISS categories.



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Supplemental Report

The Supplemental Report (pages 20-56) contains demographic information, data that stays nearly constant from quarter to quarter, and reference tables and maps.

Definitions:

Emergency Department Length of Stay (ED LOS): The time from ED Admission to ED Discharge (Physical Exit). This changed to time from ED Admission to ED Discharge (Orders Written) beginning with Quarter 3 2016 data (July 1, 2016—September 30, 2016). There is a 120 minute performance improvement filter that is tracked for various hospital groups.

Direct Admit: Patient is admitted directly to the hospital and does not spend time in Emergency Department. The ED Length of Stay should reflect a direct admittance.

External Cause of Injury: ICD-10-CM codes that are used to describe the mechanism or external factor that caused the injury event.

Trauma Type: The classification of the force applied to the body. Trauma type categories include blunt, penetrating, thermal, and other trauma. Injury Severity Score: An anatomical scoring system defined as the sum of the three highest squared maximum Abbreviated Injury Scale (AIS) values to account for multiple injuries in the six body regions.

Signs of Life: The two field values for this variable are: 1) Arrived with no signs of life, 2) Arrived with signs of life. A patient with no signs of life is defined as having none of the following: organized EKG activity, pupillary responses, spontaneous respiratory attempts or movement, and unassisted blood pressure. This usually implies the patient was brought to the ED with CPR in progress.

Acronyms:

E-code: External Cause of MVC: Motor Vehicle Collision

Injury

ED: Emergency Department
ICU: Intensive Care Unit
ISS: Injury Severity Score
OR: Operating Room
Ps: Probability of Survival
CAHs: Critical Access Hospital

LOS: Length of Stay

Calculations:

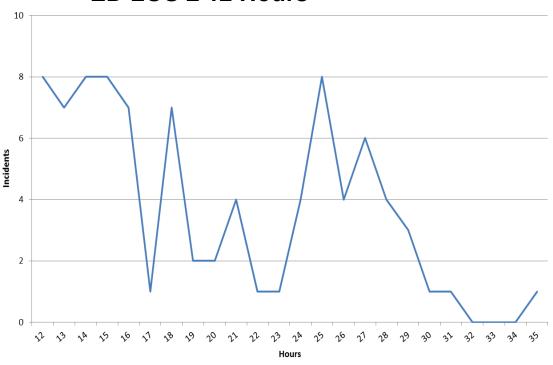
Ps = $1/(1+e^{-b})$ where b=b_o+b1(RTS) + b2(ISS) + b3(Age Index) Total GCS = Verbal GCS + Motor GCS + Eye GCS RTS = 0.94*GCS+0.73*SBP+0.29*RRISS = $(AIS)^2 + (AIS)^2 + (AIS)^2$



Statewide Quarter 4 Data Report

October 1, 2017—December 31, 2017 9,078 Incidents

ED LOS ≥ 12 Hours



N = 88

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

ED Length of Stay ≥ 12 Hours				
Hour	Count	Hour	Count	
12th	8	24th	4	
13th	7	25th	8	
14th	8	26th	4	
15th	8	27th	6	
16th	7	28th	4	
17th	1	29th	3	
18th	7	30th	1	
19th	2	31st	1	
20th	2	32nd	0	
21st	4	33rd	0	
22nd	1	34th	0	
23rd	1	35th	1	

Statewide Quarter 4 Data Report

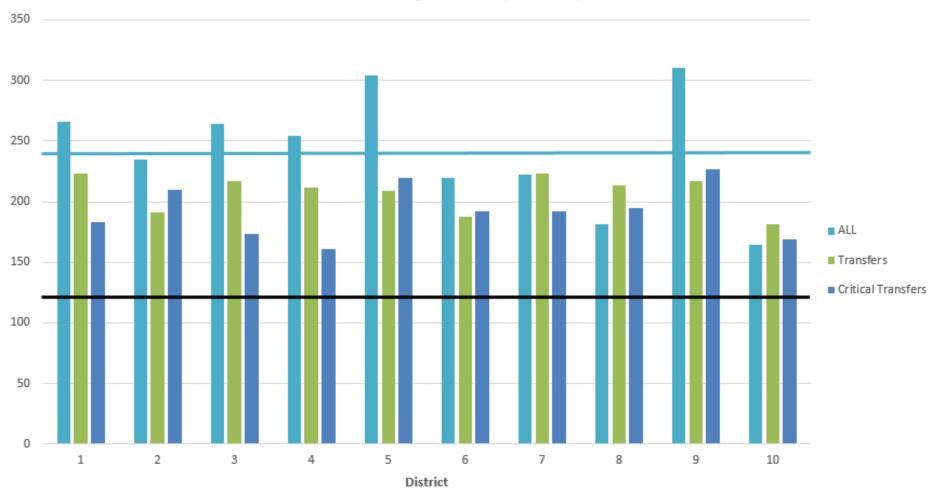
October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

ED LOS by District

Average ED LOS (Minutes)



^{*}Black line represents the 120 minute performance improvement filter

^{**}Blue line represents the state average

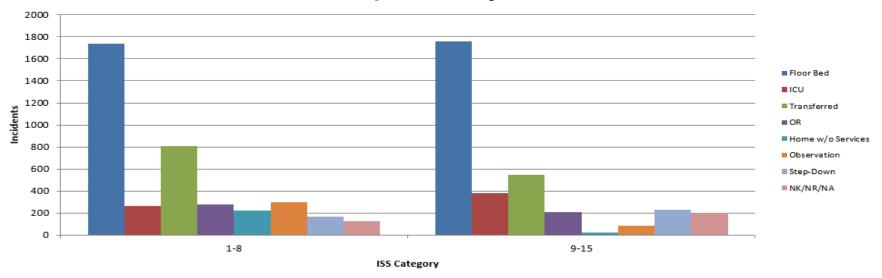
Statewide Quarter 4 Data Report

October 1, 2017—December 31, 2017 9,078 Incidents

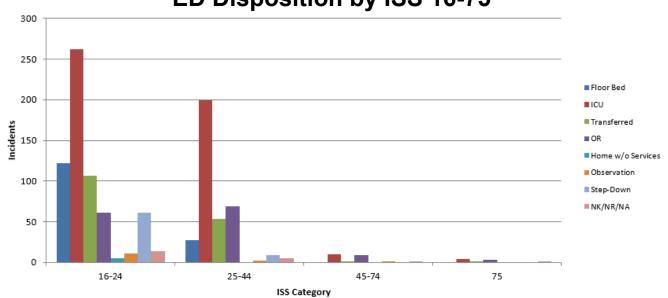
104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

ED Disposition by ISS 1-15



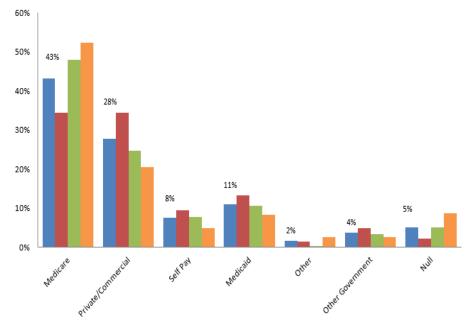
ED Disposition by ISS 16-75



Statewide Quarter 4 Data Report

October 1, 2017—December 31, 2017 9,078 Incidents

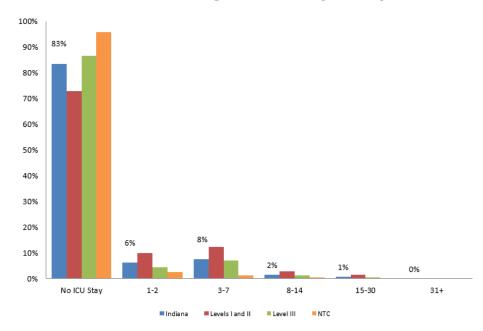
Primary Payer Mix



104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

ICU Length of Stay (Days)



Statewide Quarter 4 Data Report

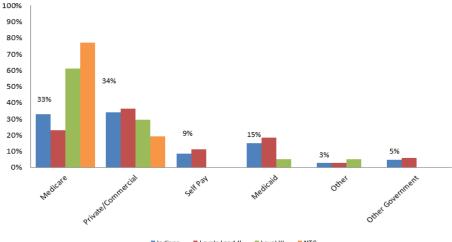
October 1, 2017—December 31, 2017 9,078 Incidents

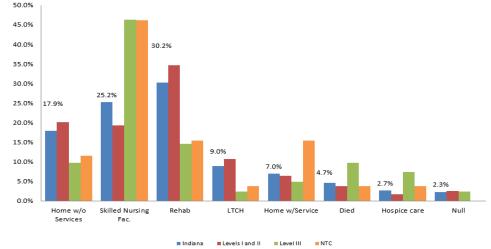
104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

Hospital Length of Stay > 15 days, N=301







Cause of Injury

100% 90% 44% 40% 30% 10% ■ Indiana ■ Levels I and II ■ Level III ■ Non-Trauma Centers Another Institution includes any other medical facility not defined in the other categories.

Cause of Injury is based on ICD-10-CM codes as of January 1, 2016. The categories for this variable include:

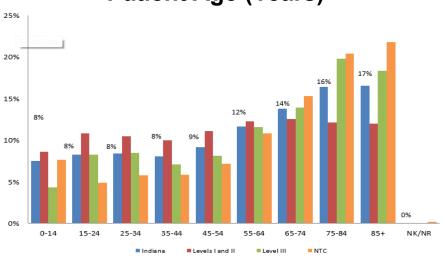
- -Transport
- -Falls
- -Inanimate Mechanical Forces
- -Animate Mechanical Forces
- -Drowning
- -Breathing
- -Electricity/Radiation
- -Smoke
- -Heat
- -Venom
- -Forces of Nature

- -Overexertion and Travel
- -Unspecified
- -Poisoning
- -Not Identified

Statewide Quarter 4 Data Report

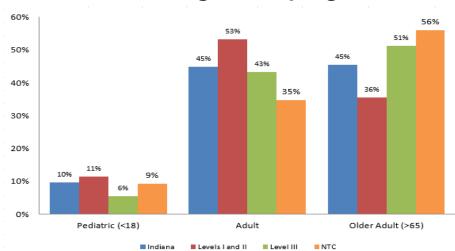
October 1, 2017—December 31, 2017 9,078 Incidents

Patient Age (Years)



There were 8 unknown ages.

Patient Age Groupings



104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

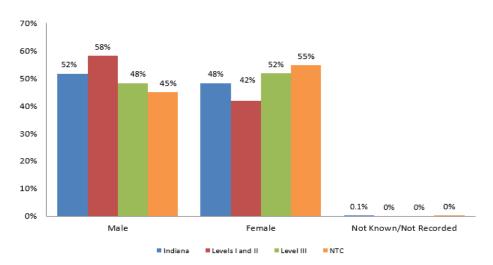
Age Group	Indiana	Level I and II	Level III	NTC
0-14	683	369	69	245
15-24	750	462	132	156
25-34	767	447	135	185
35-44	730	427	114	189
45-54	835	475	130	230
55-64	1058	525	185	348
65-74	1250	536	223	491
75-84	1491	520	316	655
85+	1506	513	293	700
NK/NR	8	1	0	7
Total	9078	4275	1597	3206

Age Group	Indiana	Level I and II	Level III	NTC
Pediatric (<18)	872	486	89	297
Adult	4072	2270	691	1111
Older Adult (>65)	4126	1518	817	1791
Total	9070	4274	1597	3199

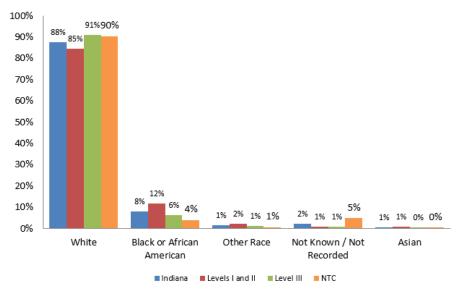
Statewide Quarter 4 Data Report

October 1, 2017—December 31, 2017 9,078 Incidents

Patient Gender



Patient	Race
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104 rotal riospitals reporting	104 Total	Hospitals	Reporting
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Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

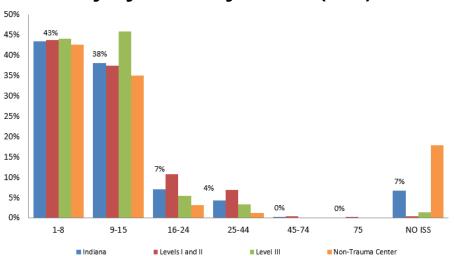
Gender	Indiana	Level I and II	Level III	NTC
Male	4693	2484	770	1439
Female	4374	1791	827	1756
Unknown	11	0	0	11
Total	9078	4275	1597	3206

Race	Indiana	Level I and II	Level III	NTC
White	7962	3613	1454	2895
Black or African American	734	505	100	129
Other	124	87	20	17
Not Known/Not Recorded	198	31	15	152
American Indian or Alaska Native	4	2	2	0
Asian	48	31	5	12
Native Hawaiian or Pacific Islander	8	6	1	1
Total	9078	4275	1597	3206

Statewide Quarter 4 Data Report

October 1, 2017—December 31, 2017 9,078 Incidents

Injury Severity Score (ISS)



There were 23 and 12 cases in the 45-74 and 75+ categories, respectively

Transport Mode 90% 80% 70% 60% 50% 40% 30% 23% 20% 10% Ground Ambulance Helicopter Private⁴ NK/NR/NA Level III Indiana Levels Land II

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

ISS Category	Indiana	Level I and II	Level III	NTC
1-8	3932	1866	702	1364
9-15	3451	1597	731	1123
16-24	649	460	87	102
25-44	392	296	53	43
45-74	24	23	1	0
75	12	10	0	2
No ISS	618	23	23	572
Total	9078	4275	1597	3206

Transport Mode	Indiana	Level I and II	Level III	NTC
Ground Ambulance	6469	3322	1193	1954
Helicopter	0	0	0	0
Private	2047	531	396	1120
NK/NR/NA	533	414	7	112
Police	26	5	1	20
Other	3	3	0	0
Total	9078	4275	1597	3206

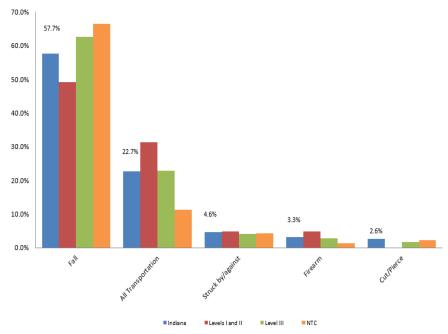
<1% Transport Mode: Police, Other

^{*} Indicates Private/ Public Vehicle, Walk-in

Statewide Quarter 4 Data Report

October 1, 2017—December 31, 2017 9,078 Incidents

Cause of Injury



<2% Cause of Injury Categories: Other specified, blank, other, natural/environmental, fire/burn, machinery, overexertion, unspecified, drowning/submersion and suffocation

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

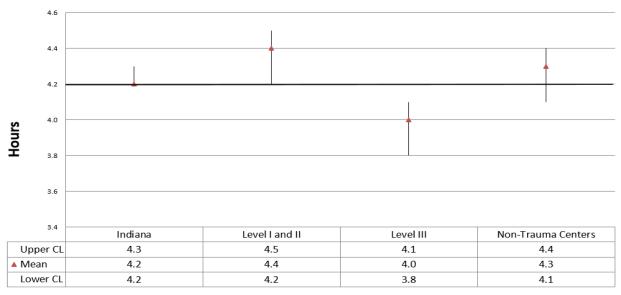
Cause of Injury	Indiana	Level I and II	Level III	NTC
Falls	5239	2104	1001	2134
All Transportation	2060	1336	365	359
Struck by	416	210	66	140
Firearm	296	208	46	42
Cut/pierce	233	133	28	72
Other specified	166	106	13	47
Blank	167	4	6	157
Other	146	33	3	110
Natural/ Environmental	112	46	22	44
Fire/Burn	103	36	25	42
Machinery	76	40	10	26
Overexertion	39	13	9	16
Unspecified	24	5	2	17
Drowning/ submersion	1	1	0	0
Suffocation	1	0	1	0
Total	9078	4275	1597	3206

Statewide Quarter 4 Data Report October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

All Patients Average ED LOS (Hours)



The purpose of the caterpillar graphs is to compare different groups to the average ED LOS. The Indiana mean is the comparison group, which is represented by the black line.

The ED LOS for these graphs was modeled using time-to-event analysis. The purposes of using this analysis were to account for censoring (death) and to see how variables influence ED LOS. The outcome variable was ED LOS and the independent variables were total GCS and age. If total GCS was missing but manual total GCS was recorded, then the manual total GCS was used. These two variables were used because they were the most similar to variables used in the published, peer-reviewed literature on ED LOS. Both were significant in the model. Increasing total GCS and age led to a slightly shorter ED LOS. Hospitals that did not have enough incidents with total GCS or age could not be modeled.

In the chart on the left, note the trauma center average is above the mean and the non-trauma center is below the mean. The mean, 95% confidence limit and lower confidence limit are listed for each group.

In the chart on the right, the data is for the trauma centers. The trauma center average is in the first column on the left side. The information for each trauma center has been assigned a random number for confidentiality. The mean, 95% confidence limit and lower confidence limit are listed for each group.

Statewide Quarter 4 Data Report

October 1, 2017—December 31, 2017 9,078 Incidents

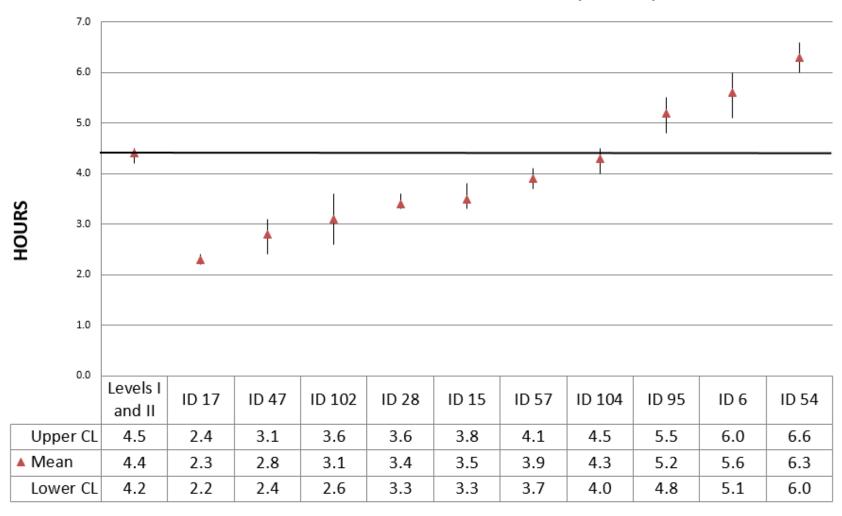
104 Total Hospitals Reporting

Level I and II:

Level III:

10 facilities
47.1% of data
12 facilities
18.0% of data
(Non-Trauma) Hospitals:
82 facilities
34.9% of data

All Patients
Level I and II Trauma Centers ED LOS (Hours)



Statewide Quarter 4 Data Report

October 1, 2017—December 31, 2017 9,078 Incidents

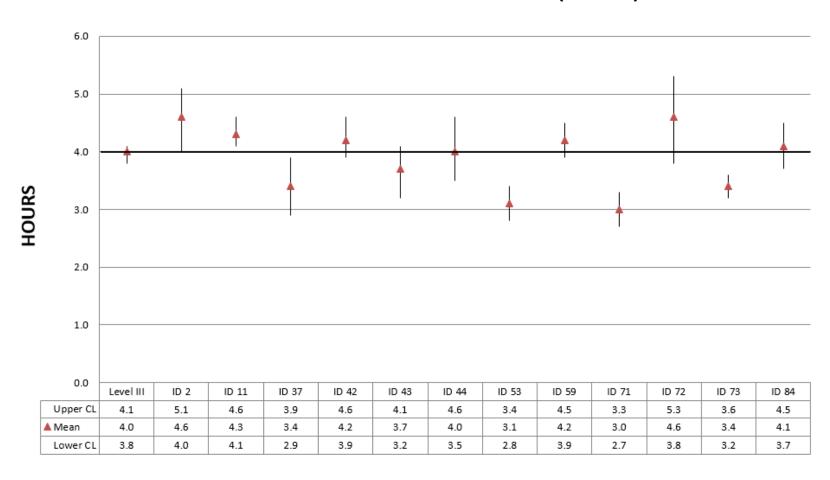
104 Total Hospitals Reporting

Level I and II:

Level III:

10 facilities
47.1% of data
12 facilities
18.0% of data
(Non-Trauma) Hospitals:
82 facilities
34.9% of data

All Patients Level III Trauma Centers ED LOS (Hours)



Statewide Quarter 4 Data Report
October 1, 2017—December 31, 2017

October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

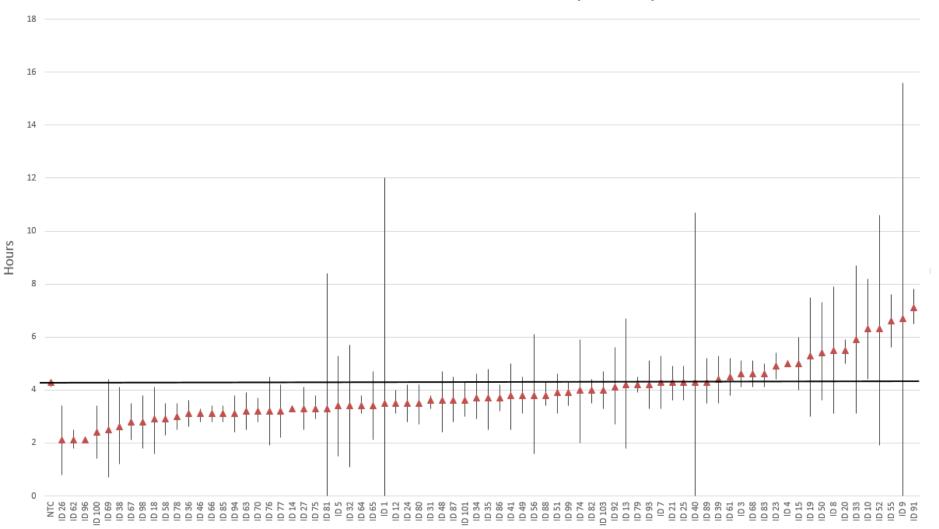
Level I and II:

Level III:

(Non-Trauma) Hospitals:

10 facilities
47.1% of data
18.0% of data
34.9% of data

All Patients Non-trauma Centers ED LOS (Hours)

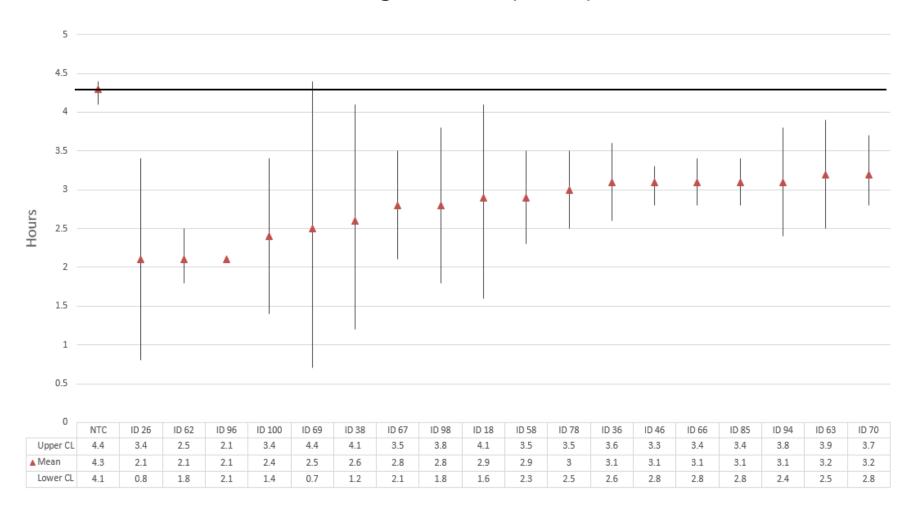


Statewide Quarter 4 Data Report October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

All Patients Non-Trauma Centers— Average ED LOS (Hours)

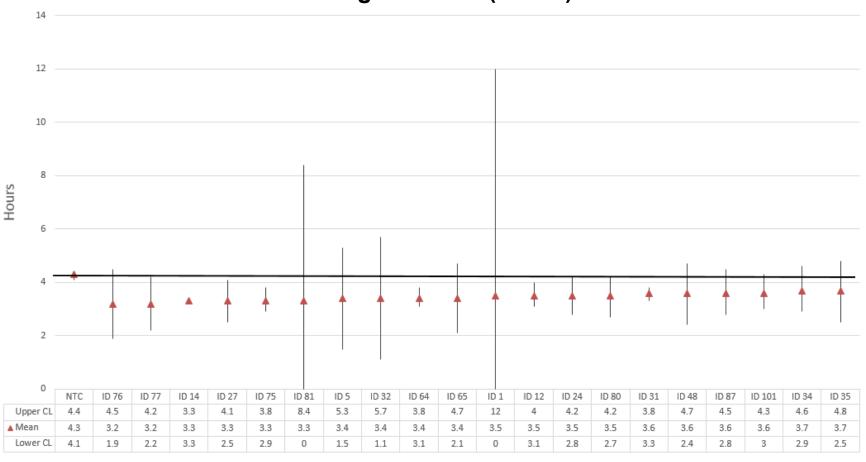


Statewide Quarter 4 Data Report October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

All Patients Non-Trauma CentersAverage ED LOS (Hours)

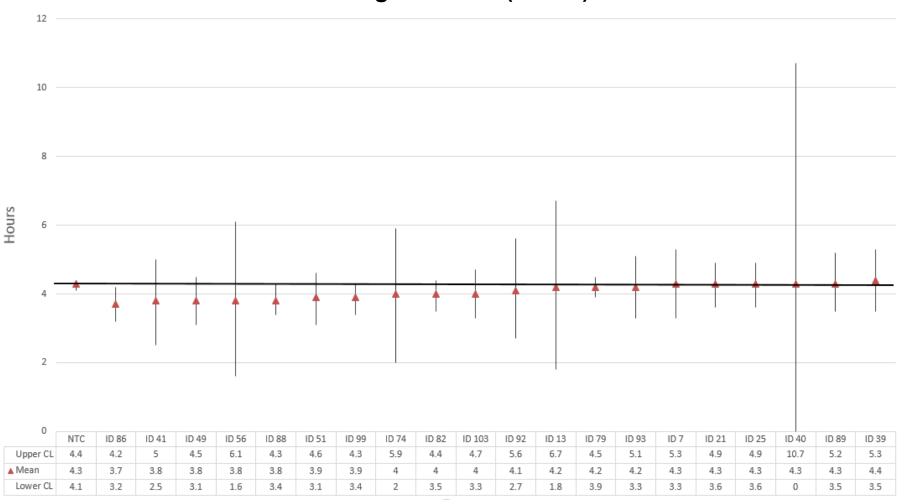


Statewide Quarter 4 Data Report October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

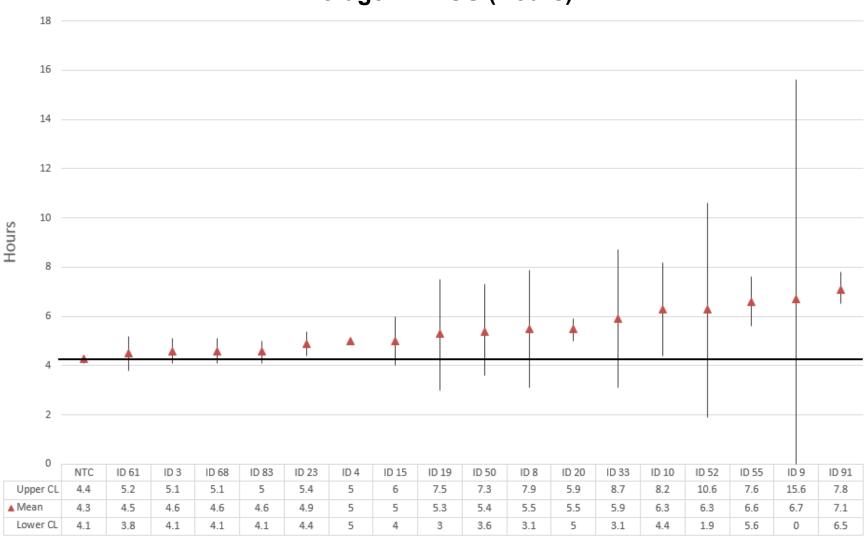
All Patients Non-Trauma CentersAverage ED LOS (Hours)



Statewide Quarter 4 Data Report October 1, 2017—December 31, 2017 9,078 Incidents 104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

All Patients Non-Trauma CentersAverage ED LOS (Hours)



Statewide Quarter 4 Data Report

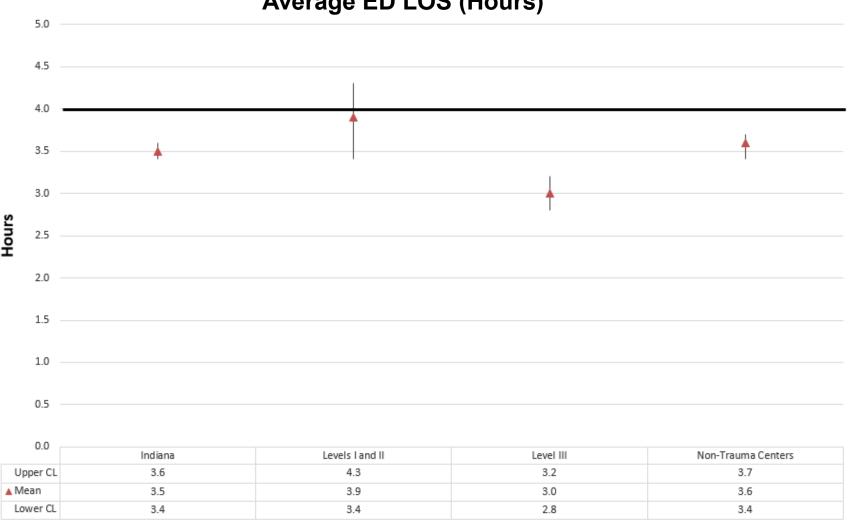
October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

ED Disposition = Transferred

Average ED LOS (Hours)



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-37	

Statewide Quarter 4 Data Report

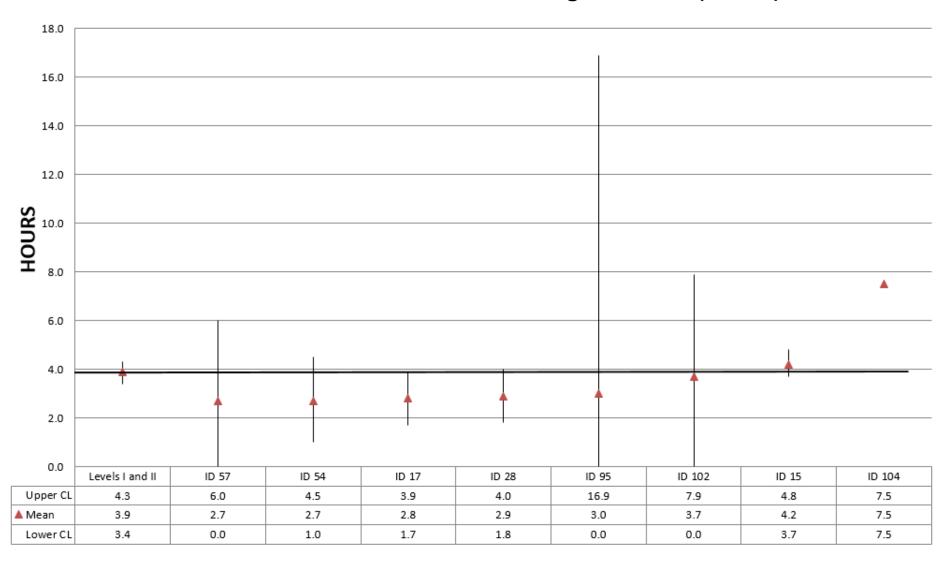
October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

ED Disposition = Transferred

Level I and II Trauma Centers- Average ED LOS (Hours)



Statewide Quarter 4 Data Report

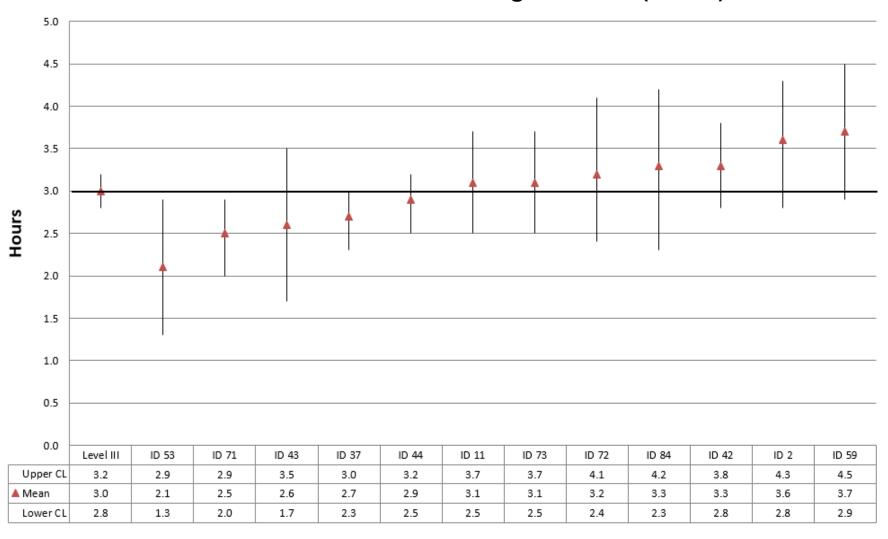
October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

ED Disposition = Transferred

Level III Trauma Centers- Average ED LOS (Hours)

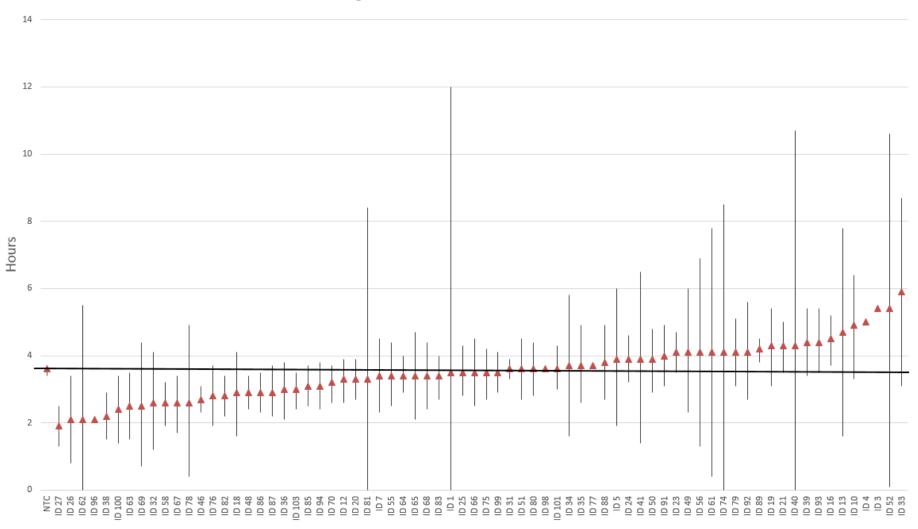


Statewide Quarter 4 Data Report October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

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ED Disposition=Transferred



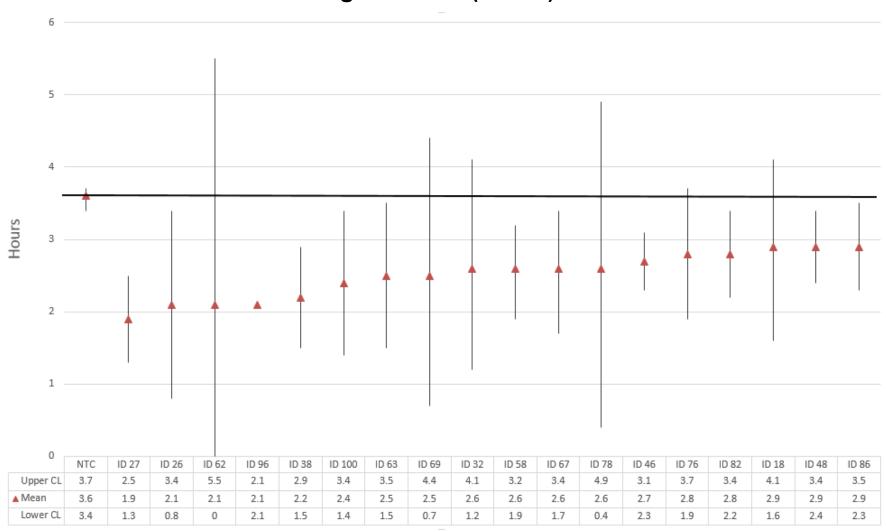
Statewide Quarter 4 Data Report October 1, 2017—December 31, 2017

9,078 Incidents

104 Total Hospitals Reporting

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ED Disposition=Transferred



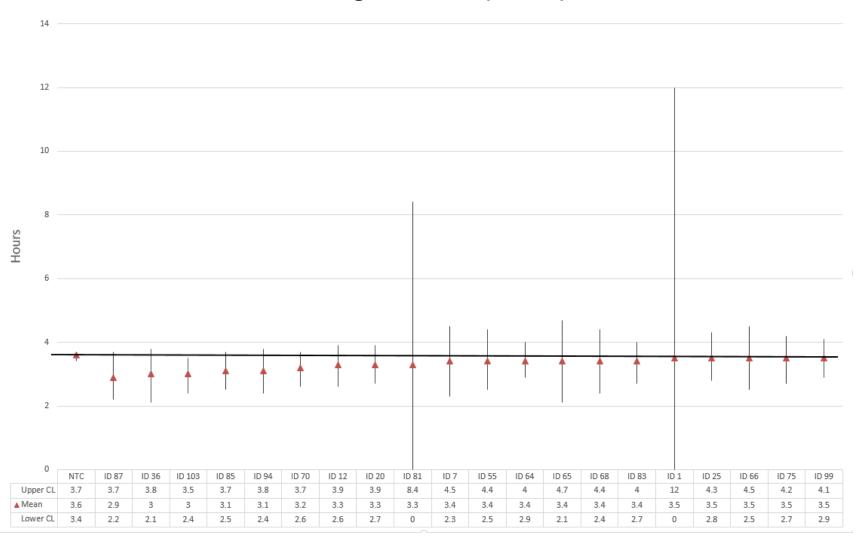
Statewide Quarter 4 Data Report October 1, 2017—December 31, 2017

9,078 Incidents

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ED Disposition = Transferred

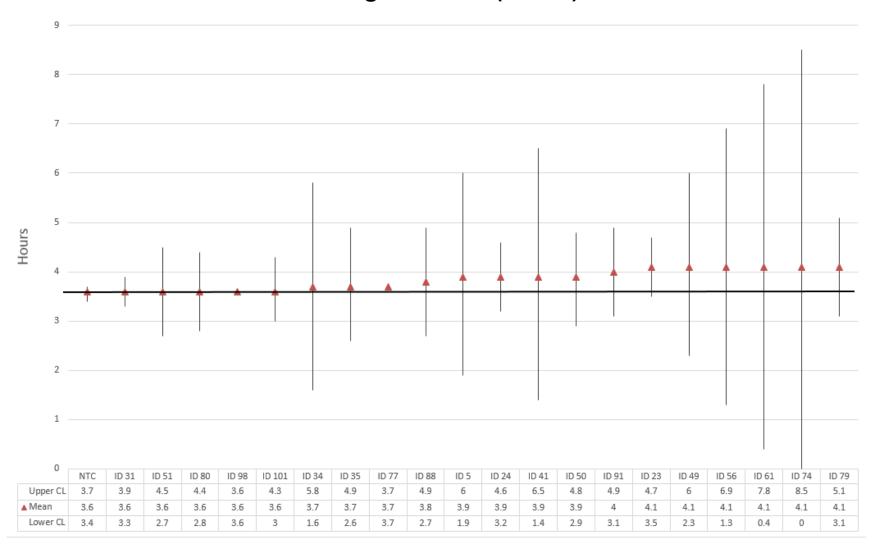


Statewide Quarter 4 Data Report October 1, 2017—December 31, 2017 9,078 Incidents

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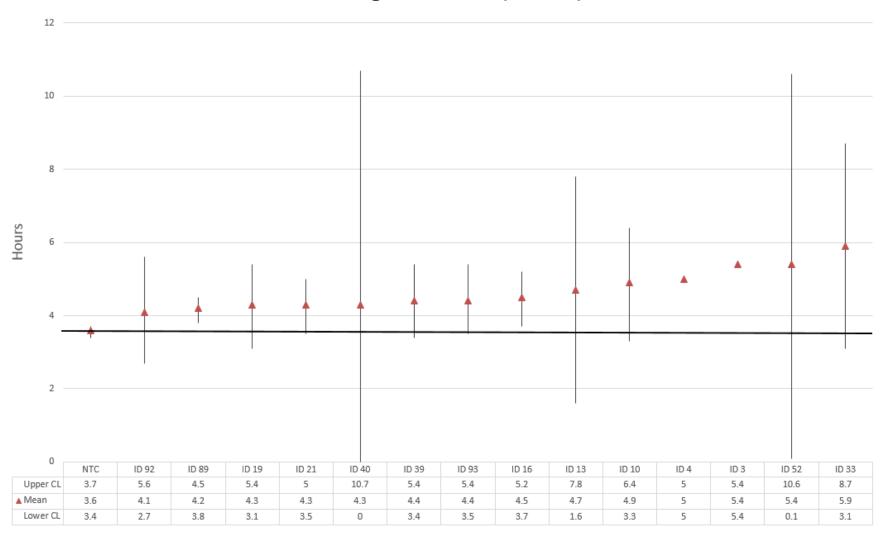


Statewide Quarter 4 Data Report October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

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ED Disposition = Transferred



Statewide Quarter 4 Data Report

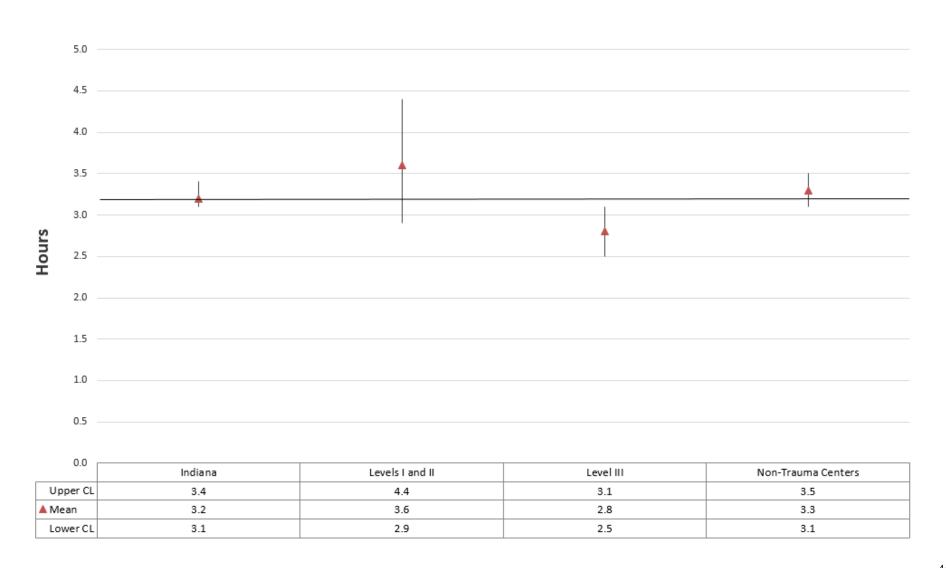
October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

Critical Patients, ED Disposition = Transferred

Average ED LOS (Hours)



Statewide Quarter 4 Data Report

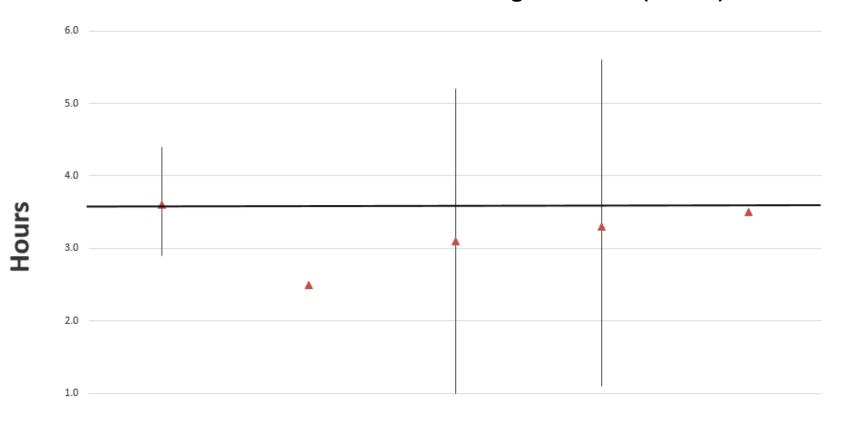
October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

Critical Patients, ED Disposition = Transferred

Level I and II Trauma Centers - Average ED LOS (Hours)



0.0	Levels I and II	ID 6	ID 54	ID 28	ID 17
Upper CL	4.4	2.5	5.2	5.6	3.5
▲ Mean	3.6	2.5	3.1	3.3	3.5
Lower CL	2.9	2.5	1.0	1.1	3.5

Statewide Quarter 4 Data Report October 1, 2017—December 31, 2017

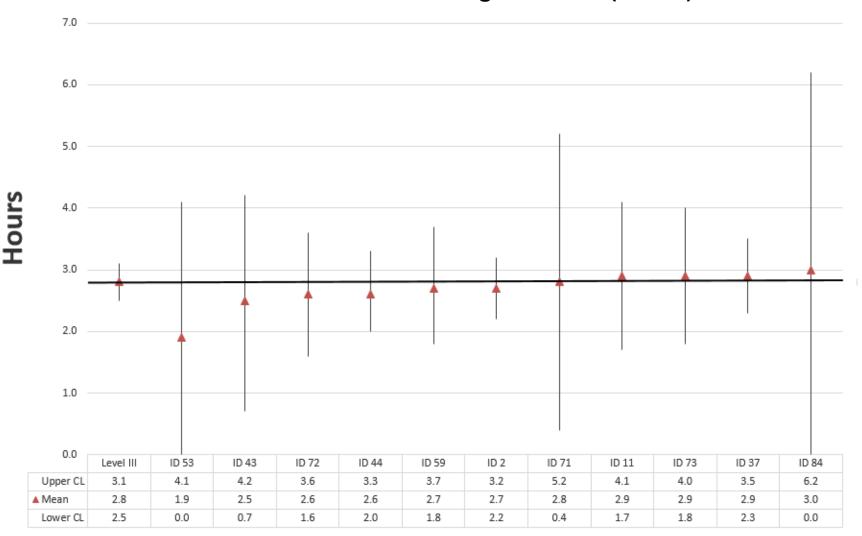
October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

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Critical Patients, ED Disposition = Transferred

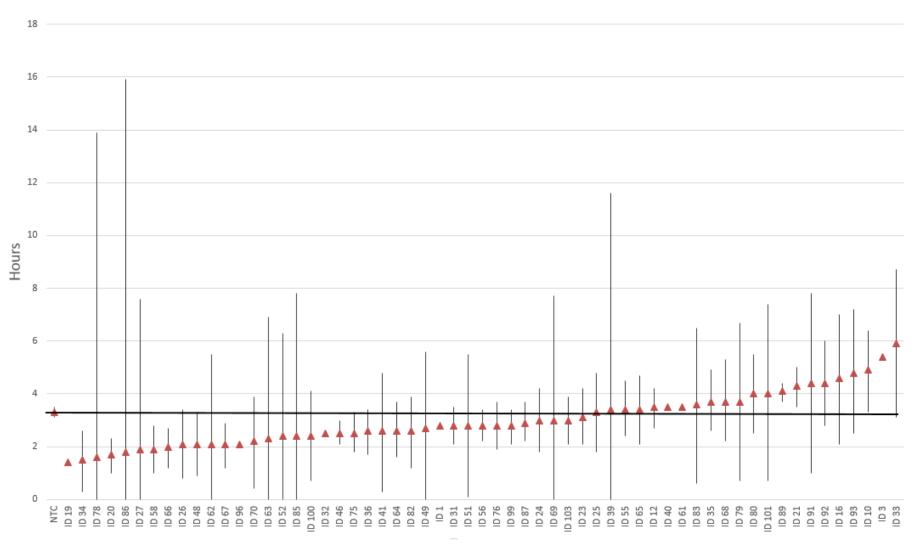
Level III Trauma Centers - Average ED LOS (Hours)



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104 Total Hospitals Reporting

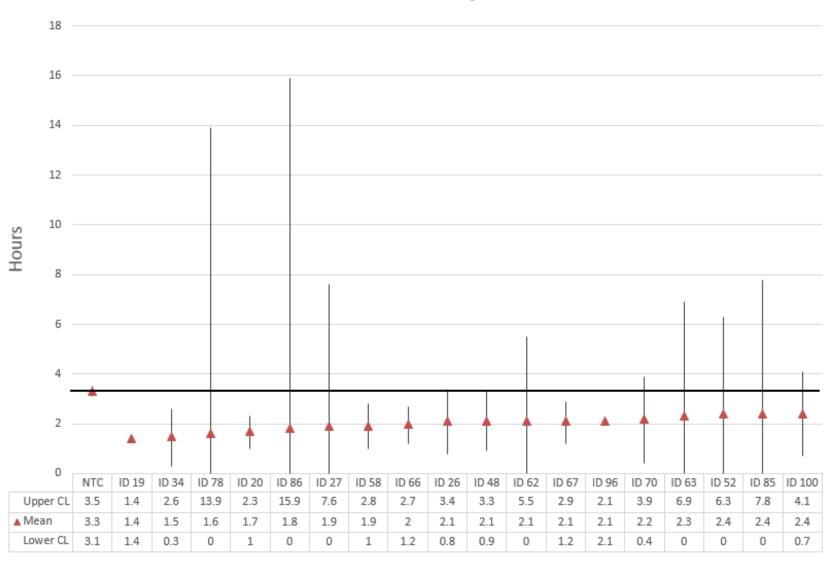
Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data



Statewide Quarter 4 Data Report October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data



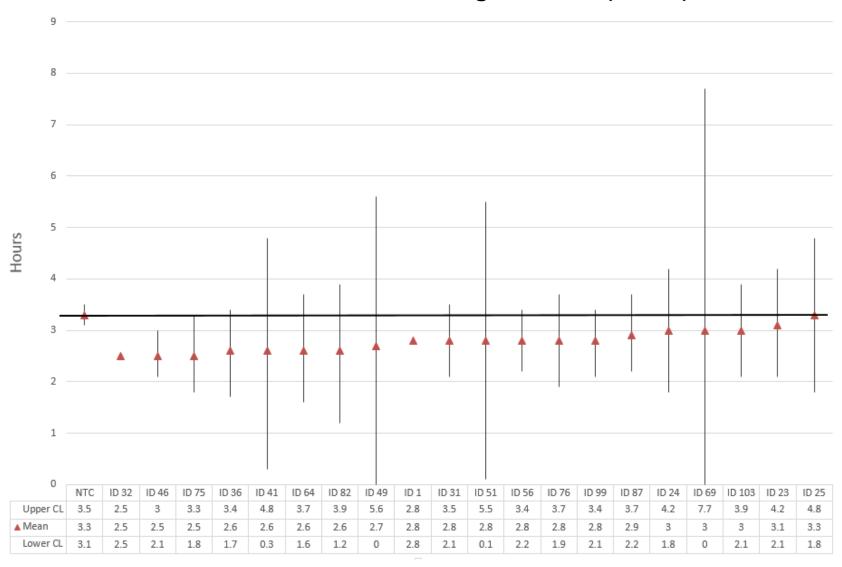
Statewide Quarter 4 Data Report October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data

(Non-Trauma) Hospitals:

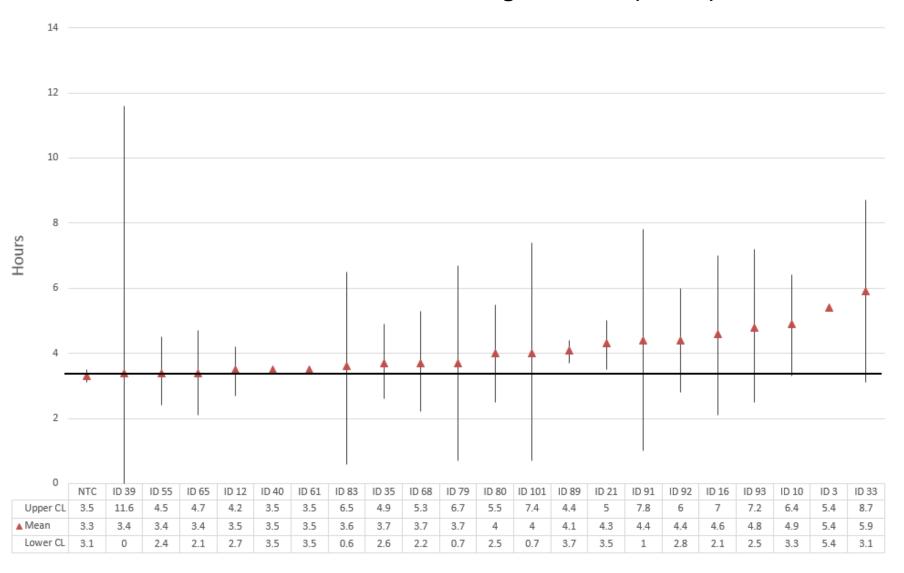
82 facilities 34.9% of data



Statewide Quarter 4 Data Report October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data



Statewide Quarter 4 Data Report

October 1, 2017—December 31, 2017 9,078 Incidents

ED Length of Stay

ED Length of Stay (minutes)											
	Indiana Average	Level I and II	Level III	NTC							
N=	8325	3981	1518	2826							
Average	167	166	147	179							
Std. Deviation	157	167	110	163							
Minimum	0	0	0	0							
Quartile 1	79	67	84	96							
Median	136	127	126	151							
Quartile 3	210	211	187	225							
Maximum	2114	2114	1600	1888							

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

ED Disposition

ED Disposition (count)									
	Indiana	Level I and II	Level III	NTC					
Floor Bed	3917	1910	737	1270					
ICU	1139	920	139	80					
Transferred	1654	104	289	1261					
OR	627	475	98	54					
Home w/o Services	292	150	86	56					
Observation	429	217	65	147					
Step-Down	539	239	75	225					
Expired	67	36	14	17					
NK/NR/NA	373	204	84	85					
AMA	10	7	3	0					
Home w/ Services	1	1	0	0					
Other	30	12	7	11					
Grand total	9078	4275	1597	3206					

^{*}A bar graph of ED Disposition is found on page 2.

^{*}A bar graph of ED Length of Stay is found on page 2.

Statewide Quarter 4 Data Report

October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

ED Length of Stay by ISS

ED Length of Stay (minutes)											
ISS Category	Indiana Average	Indiana Average	Level I and II	Level I and II	Level III	Level III	Non-Trauma Centers	Non- Trauma Centers			
	Counts	Minutes	Counts	Minutes	Counts	Minutes	Counts	Minutes			
1-8	3653	186	1783	190	683	161	1260	194			
9-15	3152	163	1479	163	669	141	1040	177			
16-24	616	140	447	136	84	142	101	158			
25-44	371	107	290	100	52	112	42	153			
45-74	21	70	22	73	1	25	0				
75	10	72	9	42	0		2	193			
No ISS	373	187	23	132	23	118	362	195			

^{*}A Box and Whisker plot of ED Length of Stay by ISS is found on page 5.

Statewide Quarter 4 Data Report

October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

ED Disposition (count) by ISS Category

	Floor Bed	ICU	Transferred	OR	Observation	NK/NR/ NA	Step- Down	Home w/o Services	Expired	Other	AMA	Home w/ Services	Total
1-8	1738	262	806	275	310	126	167	221	13	15	7	1	3932
9-15	1760	382	546	207	87	199	227	24	15	2	2	0	3451
16-24	122	262	107	61	11	14	61	5	6	0	0	0	649
25-44	27	199	53	69	2	5	9	0	26	2	0	0	392
45-74	0	10	1	9	1	1	0	0	2	0	0	0	24
75	0	4	1	3	0	1	0	0	3	0	0	0	12
NO ISS	270	20	140	3	27	27	75	42	2	11	1	0	618
Total	3917	1139	1654	627	429	373	539	292	67	30	10	1	9078

^{*}Bar graph of ED Disposition by ISS is found on page 23.

Statewide Quarter 4 Data Report October 1, 2017—December 31, 2017 9,078 Incidents

104 Total Hospitals Reporting

Level I and II: 10 facilities 47.1% of data Level III: 12 facilities 18.0% of data (Non-Trauma) Hospitals: 82 facilities 34.9% of data

General Report:

- -The caterpillar plots with the anonymous ID's for all patients per hospital may be found on pages 30-37.
- -The caterpillar plots with the anonymous ID's for transferred patients per hospital may be found on pages 38-45.
- -The caterpillar plots with the anonymous ID's for critical transferred patients per hospital may be found on pages 46-52.
- -Reference tables now accompany the graphs for demographic data on pages 26-29 and 53-55.